



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/021,253

12/13/2001

Jie Bian

384.7469USU

3845

7590

02/11/2008

Paul D. Greeley, Esq.
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
10th Floor
One Landmark Square
Stamford, CT 06901-2682

EXAMINER

TROTTER, SCOTT S

ART UNIT

PAPER NUMBER

3694

MAIL DATE

DELIVERY MODE

02/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/021,253	Applicant(s) BIAN, JIE	
	Examiner SCOTT S. TROTTER	Art Unit 3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the RCE received on October 29, 2007. Claims 1-14 are pending and examined in the instant application.

Applicant's Arguments

2. The applicant's arguments were considered but were rendered moot by the new grounds of rejection resulting from the applicant's amendment.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon and Feroz (IEEE Transactions on Neural Networks, Vol. 7, No. 5, September 1996 hereafter Kwon) in view of Tom (US Patent 5,696,907) and Official Notice.

As per claim 1 Kwon teaches:

A system comprising:

a component that performs an evaluation of how closely a profile of a business under inquiry matches those of businesses already confirmed as higher risk, (See *Kwon III. Methodology*)

wherein said component comprises a neural network model that captures a way multiple data elements inter-relate, and thereby recognizes patterns indicative of questionable activity; (*See Kwon III. Methodology B. Neural-Network Architecture*) a component that produces a risk score based on results of said evaluation, wherein said score is indicative of a likelihood that said business under inquiry may be involved in questionable activity; (*See Kwon I. Introduction* Detecting firms that may face SEC review based on their red flags is finding questionable activity) a component that uses said score in a determination of credit-worthiness of said business under inquiry; and a component that transmits a report including said score and said credit-worthiness.

While Kwon does not explicitly teach a component for transmitting a report of a risk to the user Tom teaches using a computer system to have a neural net analyze a problem and output the results to the user. (*See Column 3 Lines 53-55 "output device such as a display and printer"* which would form such components) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to put Kwon's system for finding suggestions of financial fraud into Tom's computer system because Tom called for the application of neural nets to commercial credit evaluation. (*See Column 7 Lines 34-35.*)

While Kwon also does not explicitly teach using such a score in calculating a credit score it is old and well known in the art of credit scoring to use neural networks to look for questionable activity to lower a credit score to limit the damage of an individual getting ready to declare bankruptcy or in some other way cease to be a good credit risk.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used a neural network to search for questionable activity and used the detection of that activity to lower a credit score.

As per claim 5 Kwon teaches:

A system, as defined in Claim 4, including a component that identifies said patterns of questionable activity. (*See Kwon Abstract*)

As per claim 8 Kwon teaches:

A system as defined in Claim 1, wherein said business under inquiry is given different scores based on how closely its patterns match those of confirmed risk businesses. (*See Kwon Abstract*)

5. As per claims 2, 3, 4, 6, and 7 Kwon teaches a system for providing risk score as discussed in claim 1. Kwon does not specifically teach the distinctions as cited in claims 2, 3, 4, 6, and 7. However, Tom teaches:

Regarding claim 2: A system, as defined in claim 1, including the variables (a) History Indicator (*See Column 4 Lines 58-59*), (i) Ownership of Facility (*See Column 4 Line 46*), and (l) Inquiry Spike (*See Column 4 Lines 51-53*).

Regarding claim 3: A system, as defined in Claim 1, further comprising:

a network (a network is defined by Webster's as a means for connecting computers together; as shown by Tom Figure 1 there must be a means of connecting the computers.) and, connected to the network, a programmed computer (*See Tom Column 3 Lines 46-49*), a user interface, (*See Tom Column 3 Lines 51-55*) a component that gathers said data elements (*See Tom Column 3 Lines 53-55*), a database having a

Art Unit: 3694

record of the businesses appended with their respective data elements, (*See Tom Figure 1 element 14*)

wherein said neural network model receives said data elements and upon identifying patterns among said data elements, assigns weights to said data elements to produce a weighted sum, (*See Tom Column 3 Lines 1-4*) such that a higher weighted sum means a higher score. (The neural nets are optimized to produce a result indicating whether an individual is a good credit risk for this transaction.)

Regarding claim 4: A system, as defined in Claim 3 further comprising a component that feeds said data elements into said neural network model. (*See Tom Figure 1.*)

Regarding claim 6: A system, as defined in Claim 5, including a component that assigns weights to said data elements to produce said weighted sum. (*See Tom Column 6 Lines 7-25*)

Regarding claim 7: A system, as defined in Claim 6, further comprising a component that calculates said weighted sum. (*See Tom Column 7 Lines 7-25*)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to put Kwon's system for finding suggestions of financial fraud into Tom's computer system because Tom called for the application of neural nets for credit evaluation (*See Column 7 Lines 34-35*) which is something that Kwon has a major effect on since an SEC investigation can destroy a company.

As per claim 9, see the rationale of claim 1.

As per claim 10, see the rationale of claim 2.

As per claim 11, see the rationale of claim 4.

As per claim 12, see the rationale of claim 5.

As per claim 13, see the rationale of claim 6.

As per claim 14, see the rationale of claim 7.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

- Basch et al. (U.S Patent 6,658,393 B1) teaches credit scoring to use neural networks to look for questionable activity to lower a credit score to limit the damage of an individual getting ready to declare bankruptcy or in some other way cease to be a good credit risk.

7. Examiner's Note: The Examiner has cited particular columns and line numbers in the references as applied to the claims for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

8. Any inquiry concerning this communication from the examiner should be directed to Scott S. Trotter, whose telephone number is 571-272-7366. The examiner can normally be reached on 8:30 AM – 5:00 PM, M-F.

Art Unit: 3694

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached on 571-272-6712.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11. The fax phone number for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300	(Official Communications; including After Final Communications labeled "BOX AF")
(571) 273-6705	(Draft Communications)

Scott Trotter
2/9/2008

/James P Trammell/
Supervisory Patent Examiner, Art Unit 3694